Public Document No. 42

The Commonwealth of Massachusetts

ANNUAL REPORT

OF

THE COMMISSIONERS

OF THE

MASSACHUSETTS NAUTICAL SCHOOL

FOR THE

YEAR ENDING NOVEMBER 30, 1920

MASSACHUSETTS NAUTICAL SCHOOL
DEPARTMENT OF EDUCATION

BOSTON
WRIGHT & POTTER PRINTING CO., STATE PRINTERS
32 DERNE STREET

The "Nantucket" leaving Boston on the Annual Summer Cruise.

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The Commonwealth of Massachusetts

DEPARTMENT OF EDUCATION,
BOSTON, Jan. 1, 1921.

To the Honorable Senate and House of Representatives.

GENTLEMEN: — In accordance with section 8 of chapter 350 of the General Acts of 1919, I transmit to you herewith, for the use of the General Court, the annual report of the Massachusetts Nautical School for the year 1920.

Respectfully yours,

PAYSON SMITH,
Commissioner of Education.

The Commonwealth of Massachusetts.

DEPARTMENT OF EDUCATION.

PAYSON SMITH, *Commissioner of Education.*

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BRADFORD DURFEE TEXTILE SCHOOL, FALL RIVER.
LOWELL TEXTILE SCHOOL.
NEW BEDFORD TEXTILE SCHOOL.

CONTENTS.

	PAGE
Personnel,	10
School Finances,	11
Other Nautical Schools,	11
Needs of the School,	12
The School Record,	13
The Spring Graduation Exercises,	14
The Autumn Graduation Exercises,	15
Lectures,	15
Superintendent's Reports,	15
The Winter Term,	15
The Summer Term,	18
Itinerary,	23
Officers and Instructors,	23
Appointments and Resignations,	24
Cadet Officers,	24
Cadets admitted, graduated, and honorably discharged,	26
Membership of the School,	27
Register of Graduates,	32
Appropriations,	47

The Commonwealth of Massachusetts

DEPARTMENT OF EDUCATION, MASSACHUSETTS NAUTICAL SCHOOL.

REPORT OF THE COMMISSIONERS.

To the Commissioner of Education.

The Commissioners of the Massachusetts Nautical School have the honor to submit their report of the operations of the school for the year 1920, the twenty-ninth annual report.

Under the provisions of chapter 350 of the General Acts of 1919 the Massachusetts Nautical School was placed in the Department of Education. The Commissioners have regularly submitted bulletins on the operations of the school to the Department of Education; have conducted through it correspondence and business with other departments of the Commonwealth; and have received the co-operation of the Commissioner of Education.

During the year 70 cadets have been admitted to the school, 35 in the spring and 35 in the fall, selected by competitive examination from 159 applicants, all the sons of citizens of the Commonwealth. There have been graduated and diplomas awarded, after two years of instruction, to 50 cadets, 29 in the spring and 21 in the fall. Twenty have left the school, for various causes, without completion of the course.

The average number of enrolled cadets in the school has been 114. At the opening of the summer and winter terms the enrolled cadets were limited only by the accommodations of the school ship.

While there has been during the year an increasing depression and lack of employment in maritime business, the gradu-

ates of the school have secured employment as officers in the merchant marine, which has given evidence that there is a continued and ample opportunity to secure such positions for those who are thoroughly qualified.

The Navy Department sought the opportunity to enroll all of this year's graduates in the Naval Reserve. A large number of the graduates of the school were so enrolled during the war and saw active service in the Navy, and many are still continuing in the naval service.

The graduates of the school during the twenty-nine years of its existence number 953, and the Commissioners do not know of any record of vocational training that shows such a very large percentage engaged in the occupation for which they have been prepared as that of the Nautical School.

The Commissioners have maintained their usual supervision of the affairs of the school and have conducted, both with and without notice, various inspections of all the departments of its activities throughout the year. The health of the school continues good and its standard of instruction and discipline has been maintained.

Personnel.

Commissioner William E. McKay, after twelve years of service, was reappointed on July 1, 1920, for an additional three years.

Few changes have occurred in the corps of officers and instructors. Lieut. Nicolai Sivertsen, U. S. N. A. R., after eighteen years of efficient service as instructor in seamanship, resigned March 31, 1920, to take up active service in the merchant marine, which offered compensation which the school could not afford to meet.

Lieut. E. V. Sandstrom, U. S. N., having served a detail of three years from the active list of the Navy, was detached by the Navy Department, and in spite of active solicitation on the part of the Commissioners, the Navy Department was unable to spare an officer for his relief, obliging the Commissioners to replace him at an added expense.

School Finances.

The usual financial statement will be found in its accustomed place on the last page of this report. The Commissioners, however, very much regret that in spite of their best efforts they have incurred a deficit for the year, and have expended $919.54 in excess of the total appropriations for the school, amounting to $87,416.95.

In order to avoid a deficit, the summer cruise was materially restricted in order to save coal, which has reached a price about three times that estimated for the year. It had been planned to provide a sea cruise of some duration, sailing from the capes of the Chesapeake direct to Halifax, returning to Nantucket and Provincetown for the completion of the cruise; but in order to avoid the expense of fuel, which would have been in the neighborhood of $500, the "Nantucket" returned from Chesapeake Bay to Nantucket Sound and completed the cruise with the minimum expenditure. This was not to the advantage of the school. During the greater part of the cruise the services of 4 seamen and 3 firemen were dispensed with, and all such labor necessary for the operation of the ship was performed by the cadets.

The Navy Department loans the school ship "Nantucket" and her apparel to the Commonwealth, and also provides for the repairs necessary for the maintenance of the hull, machinery and equipage. The Navy Department contributes through appropriation by Congress the sum of $25,000, and further favors the Commonwealth by permitting the Commissioners to purchase various supplies at the navy yards and stations.

Other Nautical Schools.

During the past year State nautical schools have been put in operation by the States of Pennsylvania and Washington, and a project for the establishment of a nautical school has been launched by the State of California. The State of New York continues to maintain an efficient nautical school.

The indications are that the United States must continue to take a large part in the maritime transportation of the world, and the nautical school will continue to be an advantage to the citizens of the Commonwealth and the nation.

Needs of the School.

During the summer term, from April to October, the school ship is at sea engaged in the practical instruction of the cadets. From October to April, the period of study, the spar deck of the "Nantucket" is housed and the ship is moored at the North End Park in Boston, at a berth rented from the Park and Recreation commissioners of the city of Boston at a rental of $800.

As the space on board ship is inadequate to provide for classrooms and at the same time subsist and lodge the officers, crew and cadets, as well as provide storage and overhauling of the ship's gear not in use, the Park Commissioners have permitted the use of various rooms in the bath building adjoining the berth for classrooms and storage purposes. These accommodations are obtained as a privilege, and are really essential for the proper conduct of the ship, but unsuitable and inadequate for the purpose. There is no space for indoor drills or recreation during the winter months, no workshop for practical instruction in seamanship and repairs to machinery with suitable light or sanitary appliances. The Commissioners therefore have thought it proper to inform the Legislature of these conditions and ask whether or not the value of the school justifies suitable expenditure for reasonable accommodations. For this purpose the Commissioners have prepared plans for the construction of a building at the North End Park to replace a portion of the present bathhouse, which would provide the city of Boston with better accommodations than it has at present and would at the same time give the school the facilities which it requires.

If the Commonwealth believes it is justified in providing permanent accommodations for the Nautical School, the Commissioners feel that no more suitable site can be found than that at the North End Park. The fact that a large number of the cadets attending the school come from the vicinity of Boston and that Boston is the center of the maritime activities of the State, in the opinion of the Commissioners, make it necessary for the school to be located in Boston. No property in Boston owned by the Commonwealth offers the advantages

of the North End Park in accessibility, convenience to the navy yard, and a playground adapted for and used continually for drill purposes. With these views in mind, the Commissioners have, therefore, at the proper time submitted recommendations to the Commissioner of Education with a draft of a bill, as follows: —

AN ACT FOR THE IMPROVEMENT OF THE MASSACHUSETTS NAUTICAL SCHOOL IN THE DEPARTMENT OF EDUCATION.

SECTION 1. There is hereby appropriated out of the ordinary revenues of the commonwealth the sum of one hundred and twenty-five thousand dollars to be expended by the commissioners of the Massachusetts Nautical School, in the department of education, for the construction of a building on land of the city of Boston, at the North End Park, Boston, the title of said building, as completed, to vest in the city of Boston in consideration of a lease of ninety-nine years of that portion of the building devoted exclusively to the purposes of the nautical school, and the use of the adjoining pier for berthing the school ship "Nantucket" from October first to April first following of each year. The construction of the building shall not be begun until an agreement satisfactory to the governor and council has been entered into between the commonwealth and the city of Boston. The appropriation hereby authorized is for the construction of the building and for the heating plant and equipment of that portion to be used by the nautical school.

SECTION 2. This act shall take effect upon its passage.

THE SCHOOL RECORD.

During the past year there have been 186 students on the rolls of the school. They came from 74 cities and towns of the Commonwealth, as follows: —

Attleboro,	1	Danvers,	2
Auburndale,	2	Dedham,	1
Beverly,	1	East Brewster,	1
Boston,	30	East Dennis,	1
Bournedale,	1	Eastham,	1
Braintree,	2	East Methuen,	1
Brockton,	3	East Milton,	1
Brookfield,	2	Everett,	4
Brookline,	1	Fall River,	5
Cambridge,	4	Fitchburg,	2
Campello,	1	Framingham,	1
Chester,	1	Gloucester,	4
Cotuit,	1	Groton,	1

Haverhill,	1	Peabody,	1
Holyoke,	5	Pigeon Cove,	1
Hyannisport,	1	Plymouth,	1
Kingston,	1	Provincetown,	4
Lawrence,	10	Readville,	1
Lowell,	12	Revere,	1
Ludlow,	1	Rockland,	1
Lynn,	5	Rockport,	2
Malden,	1	Salem,	2
Manchester,	1	Somerville,	10
Mansfield,	2	South Hanson,	1
Maplewood,	1	Springfield,	7
Marion,	1	Stoneham,	1
Marlborough,	2	Stow,	1
Marstons Mills,	1	Swansea,	1
Melrose,	2	Taunton,	1
Medford,	5	Wakefield,	1
Nantucket,	1	Watertown,	1
Needham,	1	West Falmouth,	1
New Bedford,	2	Weston,	3
North Andover,	1	Westwood,	1
North Carver,	1	Winthrop,	4
North Easton,	1	Woods Hole,	1
Norton,	1	Worcester,	3

Their previous education was as follows: high schools, 161; academies, 11; technical schools and business colleges, 13; colleges, 1. The average age of the cadets at entrance was seventeen years and six months. The number of cadets enrolled in the school at present is 116.

The Spring Graduation Exercises.

The fifty-first graduation exercises were held on the pier at North End Park on March 31, 1920. The principal addresses were made by the Rev. Paul Revere Frothingham and by Mr. Francis T. Bowles, the chairman of the Board. The Alumni Association prizes were awarded to Cadet Master Francis X. Landrey, Roslindale, of the seamanship class and Cadet Engineer Arthur G. Berteaux, Boston, of the engineering class. The Massachusetts Bible Society presented a suitable Bible to each graduate.

The Autumn Graduation Exercises.

The fifty-second graduation exercises of the school were held on September 14, 1920. The principal addresses were made by Acting Chairman William E. McKay and the Rev. George H. Spencer, secretary of the Massachusetts Bible Society. The alumni prizes were awarded to William G. Watt, Auburndale, of the seamanship class and Max Gordon, Dorchester, of the engineering class.

The Bibles presented by the Massachusetts Bible Society were specially prepared for the graduates, being bound in blue, with the name of the graduate in gold on the cover, with the usual label on the inside inscribed "Presented by the Massachusetts Bible Society."

Lectures.

Supplementing the course of instruction, the following lectures were given on Wednesday evenings during the winter term: —

Mr. Wilfrid O. White. Subject: Compass Adjustment.

Lieut. Comdr. Thomas B. Richey, U. S. N. Subject: Salvage Operations.

Capt. George E. Eaton, class of 1895. Subject: Aids to Navigation.

Mr. John E. Macy, class of 1896. Subject: Admiralty Law.

Capt. Herman T. Parker, class of 1902. Subject: The United States Steamboat Inspection Service.

Mr. Frank O. Wright. Subject: The United States Steamboat Inspection Service (Engineering Department).

Lieut. Gershom Bradford, U. S. N. R. F., class of 1900. Subject: Unique Shipwrecks.

Mr. A. A. Gathemann, late of the United States Navy. Subject: Turbine Engines.

Superintendent's Reports.

The Winter Term.

The following is the report of the superintendent on the winter term: —

1. Instruction of First and Second Classes in Navigation.

Instruction was given in the following: Review of plane and Mercator sailings and definitions in nautical astronomy, instruments and their use; meridian altitude of sun and stars; time sights for longitude and day's

work at sea; the solution of great circle sailings, by computation, diagrams, charts and azimuth tables; amplitudes and azimuths by computation, diagrams and tables; chart navigation, care of charts, symbols and abbreviations; the use of the three-armed protractor; the deviation of the compass and practical compensation; latitude by ex-meridian altitudes of the sun and stars by computation, diagram and tables; the ordinary Sumner line of position and Marcq St. Hilaire method and Johnson's method; the identification of stars. A review and examination in the above subjects was held at the end of the term.

2. Instruction of Third and Fourth Classes in Navigation.

The course of instruction for these classes was more intensive than heretofore and considerably more ground was covered, with the idea that, when turned over to the navigator for the summer cruise, these classes would be prepared to work meridian altitudes and time sights.

Cadets were instructed in dead reckoning and plane sailing by computation as well as inspection; the more common methods of fixing the position of a ship by bearings of objects on shore; time; the correction of observed altitudes; definitions in nautical astronomy; the celestial sphere and the astronomical triangle; reading a sextant and observing altitudes.

3. Instruction of First and Second Classes in Seamanship.

This course of instruction included elementary ship construction; nomenclature of the ship, spars and rigging; ground tackle, how to proceed when ship goes ashore; handling steamers under steam and under steam with auxiliary sail; rules of the road; rules for communicating with the shore and for saving life in case of shipwreck; the duties of third officers; and advanced general seamanship including the laws of storms.

4. Instruction of Third and Fourth Classes in Seamanship.

This instruction consisted of elementary general seamanship; the nomenclature of the ship, sails and rigging; rules of the road; boxing the compass; marking of the lead and log lines.

All classes received instruction in practical seamanship in the rigging loft, and, when the weather was suitable, the third and fourth classes were exercised in boats under oars.

5. Instruction of First and Second Classes in Engineering.

These classes received instruction in the following subjects: Fuels, properties and handling; boilers, construction, operation and repair; boiler accessories; United States inspectors' rules for boiler construction and test; engines, details of various types, construction, operation, overhaul and adjustment; indicators, use of instrument, analysis of diagrams, adjustment of valves from diagrams; propellers, pitch and slip; con-

densers, old and new types, methods of holding tubes tight; auxiliary machinery, pumps of various types, winch, steering and anchor engines and care of same; theories of boiler corrosion, and methods for testing the quality of water for boilers; electricity, motor and dynamo troubles.

The practical work for these classes consisted of lathe work, centering, turning, boring, facing and thread cutting; boiler inspection and cleaning; care of bilges; adjustment of main engine bearings, fitting of spare brasses by scraping to crank pins, adjustment by leads and by feel; use of all the usual hand tools and gauges; piping, names, sizes and the use of all fittings.

These classes were taken on several inspection trips to shipyards and steamers, where they were given opportunity to thoroughly examine the construction of various kinds of marine machinery.

6. Instruction of Third and Fourth Classes in Theoretical Engineering.

The third and fourth classes were instructed in theoretical engineering as follows: Theory of heat, transfer of heat, expansion of solids, liquids and gases; Boyle's law; expansion of steam in engine cylinder; problems in expansive working of steam, showing its economy; condensation, vacuum; nomenclature and use of all parts of simple engines; valves, types; compound and triple expansion engines; Scotch boilers.

The practical work for the third and fourth classes consisted of: General work in fire and engine rooms, such as bunker trimming, bilge cleaning and boiler work of the simpler kind.

7. Instruction of First and Second Classes in Mathematics.

During the first half of the term these classes were given a review of the first part of algebra with the addition of fractional equations, simultaneous simple equations with problems, involution and evolution and the theory of exponents.

During the first half of the second term, instruction was given in plane geometry, all the principal definitions and the more important theorems being covered. During the remainder of the term instruction was given in plane trigonometry and the fundamental principles of spherical trigonometry, particularly the solution of spherical triangles by means of Napier's rules.

8. Instruction of Third and Fourth Classes in Mathematics.

Until the Christmas vacation these classes were reviewed in arithmetic, with special reference to fractions and decimals. Instruction was then given in algebra, covering the following: addition and subtraction, multiplication and division, factoring and fraction, and simple equations. Two weeks were devoted to the theory and practical application of logarithms.

9. Instruction of First and Second Classes in English.

Instruction in navigation laws and elementary international and admiralty law was included in the English course, also ship's papers. The lectures furnished by the Commissioners were also used. Articles on professional subjects were frequently read in class, the cadets afterwards being required to write a summary of the same. These papers were turned in and marked by the instructor. I am of the opinion that this is the best method of instruction as in this manner a cadet learns to express himself readily and at the same time is taught to concentrate on the matter read. These articles have been taken from various sources, but principally from the magazines supplied by the Commissioners.

10. Instruction of Third and Fourth Classes in English.

The textbook used in this work was "The Mother Tongue," and covered the following: Parts of speech, construction and analysis of sentences, English composition. Instruction in ship's papers was also given. Written themes were required on professional papers which were read to the cadets.

The Summer Term.

Following is the superintendent's report on the cruise: —

The "Nantucket" left the navy yard, Boston, May 11, 1920, and anchored at Provincetown, Mass., the same day. Early the next morning we got underway in order to "swing ship" for compass deviations and to station and exercise the crew at fire quarters, collision drill and abandon ship drill; the ship proceeded to sea the afternoon of the same day.

On the morning of the 13th of May the wind shifted from southeast to northeast with a falling barometer and increased in force to a moderate gale. The weather, however, moderated the next day. On May 17 the propeller was uncoupled and the ship proceeded under sail alone for more than two days and at times made 8 knots. On the 19th the wind hauled ahead and the ship proceeded under steam only, arriving at St. Thomas at 1.45 P.M., May 21, anchoring in the inner harbor. I called on the Governor of the United States Virgin Islands, Rear Admiral J. W. Oman, U. S. N., who in response to my request placed the United States naval reservation at Great Harbor, Culebra Island, at the disposal of the cadets, for the purpose of camping. While at St. Thomas, the cadets were given liberty in the afternoon until 5.30 P.M.

At 10 A.M., May 26, the "Nantucket" sailed from St. Thomas and anchored in Great Harbor, Culebra Island, on the same day. Shortly after coming to anchor, there was a very heavy rainstorm, which lasted for about twenty-four hours. This was the only rain of any moment which the ship encountered until she arrived at Mattapoisett, Mass., on August 12.

On the afternoon of May 27, the cadet battalion was landed and a camp established under the command of Commander H. G. Copeland, the executive officer. Some of the buildings on the naval reservation were found to be in a very good state of repair, and it was decided to use them rather than improvise tents in case of a repetition of the heavy rain. A large boathouse on the water front, having a cement floor, was quickly fitted up so that all cadets could sling their hammocks in it. Another building was used as officers' quarters, one as a galley and a fourth as sick quarters. The details for camp discipline were made, posting a regular guard and sentries. While in camp, in addition to the regular drills, instruction was given in aiming and sighting, with a view to preparing the cadets for target practice at Guantanamo. The conduct of the cadets, with a few exceptions, while ashore was excellent, and I believe that they greatly benefited by the experience. There was a cool, gentle breeze every night, blowing directly into the boathouse where the cadets slept. The boathouse was open on the water front, thus making the cadets more comfortable while in camp than on board ship. On June 2 the battalion returned to the ship.

At 8.30 A.M. on June 3 the "Nantucket" left Great Harbor and this day and the following were spent in the smooth water near Culebra, instruction being given the cadets of the first and second classes in the practical adjustment of the compass and finding the residual deviations by swinging ship by the methods of time azimuths of the sun and the bearings of a distant object These classes also practiced at plotting the ship's position by sextant angles and compass bearings.

The "Nantucket" arrived at San Juan, Porto Rico, on June 4. The following day I called on the Acting Governor. The cadets were exercised in boats under sail and oars daily while in this port and routine instruction was carried on in the forenoon. Liberty was granted by watches to the first and second classes from 1.30 to 8.45 P.M. and to the third and fourth classes from 1.30 to 5.30 P.M., so that all cadets had an opportunity to visit the points of interest in and about San Juan. While at San Juan the weather on the whole was very good, with very little rain, the evenings nearly always being cool and pleasant with a gentle breeze. The health of the officers, cadets and crew was very good.

At 2 P.M., June 10, the "Nantucket" sailed from San Juan for Guantanamo, Cuba, under two boilers, sail being used during about one-third of the passage. The ship anchored in Guantanamo Bay, off the United States naval station, on June 13. The next morning I exchanged visits with the commandant, Commander Guy Whitlock, U. S. N., and obtained permission from him to use the small arm range. June 14, 15 and 16 the first and second classes were engaged in shooting the marksman's course for small arms qualification. The preliminary instruction of the cadets and the course as shot were in accordance with the small arms firing regulations of the Navy in use at the present time. The entire course was supervised by the executive officer, who holds an expert's qualification medal for small arms marksmanship. He was assisted by the navigator,

Mr. Thompson and Lieutenants Kelley and Merrill, U. S. N. R. F. Notwithstanding the inadequate amount of preparation for actual firing which the cadets received prior to going on the range, the percentage of qualification was high.

The "Nantucket" sailed from Guantanamo, Cuba, at 9.45 A.M., June 17, arriving at Santiago de Cuba on the same day. While at Santiago the weather was hot, but the routine was carried on as nearly as possible. I called on the United States consul and arrangements were made through him to have the cadets visit Moro Castle at the entrance to the harbor, and each watch went down in the ship's boats early in the morning. The cadets were given liberty by watches until sunset, so that ample opportunity was afforded to visit all places of interest in and about the city.

We sailed from Santiago de Cuba on June 21 and anchored at Charleston, S. C., June 26. The passage was made under two boilers and sail was carried most of the way. The weather was excellent for navigation work, and the first and second classes were instructed in taking sights of the sun, moon and stars and working them out.

The "Nantucket" sailed from Charleston, S. C., on June 30, anchoring off the United States Naval Hospital, Norfolk, Va., at 2.20 P.M., July 2. The weather was clear and pleasant, good for navigation work until near Cape Hatteras, when it became too hazy to pick up the light vessel, and the run to Cape Henry was made with the sounding machine during the night. While at Norfolk supplies and coal were received from the naval supply base. The cadets visited the navy yard and the Pennsylvania nautical schoolship, the U. S. S. "Annapolis," at that time in drydock at the yard. Boat and signal drills were held in the forenoon and liberty given in the afternoon, by watches. The ship was full dressed on July 5 in observance of the national holiday. Visits were exchanged between the captains and officers of the "Nantucket" and the "Annapolis." I also called on the commandant of the navy yard.

Leaving Norfolk on July 9, the "Nantucket" anchored off the Newport News Shipbuilding and Drydock Company at 4.24 P.M. the same day. I called on Mr. Homer L. Ferguson, the president of the company, and arrangements were made with him to have the cadets visit the yard. The next day the first and second classes, in charge of the executive officer, accompanied by the chief engineer and the navigator, had an instructive visit to the various shops, and among other things they had an excellent opportunity to observe the various processes in the construction and repair of turbines.

The ship sailed from Newport News, Va., on July 10 and anchored off the United States naval air station, near the Army War College, Washington, on July 12. During the passage from Norfolk to Washington, the navigation squads were continually exercised at plotting the ship's position with sextant angles, bearings and other approved methods. The first and second classes were also given the opportunity to actually con the ship, for two hours at a time, under my observation or that of the navigator, and some of them did very well. The ceremonies, as directed

by the naval regulations, for vessels passing Mount Vernon were observed both going up and coming down the river. While at Washington, the cadets were granted extra liberty for the purpose of visiting the points of interest in and near the city.

At 7.04 A.M., July 16, the "Nantucket" sailed from Washington, anchoring off the Naval Academy, Annapolis, at 2.04 P.M., July 17. I called on Capt. Amon Bronson, U. S. N., acting superintendent, and made arrangements for the cadets to visit the Naval Academy, which they did on July 21. The following buildings were inspected: Library, lecture hall, steam engineering, department of mechanical drawing, blacksmith shop, pattern shop, electrical laboratory, armory, seamanship building, department of navigation, gymnasium and Bancroft Hall (quarters). Officers from each department conducted the officers and cadets from this ship through the different buildings, and the visit proved very interesting and instructive. One of the Annapolis newspapers commented on the fine appearance and bearing of the cadets.

The "Nantucket" sailed from Annapolis at 7.11 A.M., July 22. The day was spent underway, drilling the members of the first and second classes in going alongside a dock. Four floats with flags were anchored about 400 yards apart in a straight line, and each cadet in turn was required to so handle the helm and engines as to stop the ship with the buoy abreast of the gangway and near enough to throw a heaving line to the float, but not to touch it. Some did very well. Part of July 23 was also devoted to this drill, and the remainder of the day to sail drill. During these drills, the engineer cadets took entire charge of and worked the engines. The chief engineer reported that they did very well.

The "Nantucket" arrived at the Navy operating base, Hampton Roads, Va., on July 24, when I went ashore and called on the commandant, Rear Admiral A. F. Fechteler, U. S. N., making arrangements for coaling. The ship sailed for Nantucket on July 28. During this passage the cadets of all classes were thoroughly drilled in the use of the sounding machine, using both the tubes and the depth recorder. The weather was good for practical navigation, and the routine drills and instruction were carried out.

The "Nantucket" arrived at Nantucket on July 31. While at this port the cadets were exercised in boats under sail and oars, and the regular instruction was conducted. Liberty was given by watches in the afternoons.

Shortly after sailing for Mattapoisett at 9.14 A.M. on August 11, a very heavy rain set in, followed by dense fog, which made it necessary to anchor at Vineyard Haven for the night. We arrived at Mattapoisett at 1.36 P.M., August 12. While in this port, the weather was damp, foggy and rainy much of the time. The routine drills and instruction were conducted as far as practicable, and, when this was not permissible, "semaphore" and "blinker" signal drills were given. At 8.55 A.M., August 19, got underway, exercising the first and second classes at going alongside buoys anchored to represent wharves. At 4.53 P.M. we anchored off New

Bedford, and the next morning, after receiving stores aboard, got underway at 11.10 A.M., proceeding to Mattapoisett, anchoring at 1 P.M.

The "Nantucket" sailed from Mattapoisett for Gardiners Bay on August 23, proceeding under sail and steam (two boilers), and anchored in Gardiners Bay at 6.47 P.M. The following day, we got underway at 9.04 A.M., and exercised at going alongside buoys, "man overboard" and "abandon ship," all hands going into the boats, which were provided and lowered in seven minutes. The boat for "man overboard" was lowered in two minutes. The ship proceeded to Greenport, L. I., anchoring at 4 P.M.

During the stay at Greenport the ship was painted from truck to waterline, and all of the storerooms were broken out, cleaned and restowed. The ship's bottom was examined at all points where accessible and painted where necessary; the bilges were cleaned and painted. After working hours the cadets frequently sailed for pleasure when the wind served. The "Nantucket" sailed for Gloucester, Mass., on September 2, carrying sail from the anchorage until the vicinity of Pollock Rip Slue, and arrived at Gloucester at 1.28 P.M., September 3.

The Board of Commissioners of the Massachusetts Nautical School came on board at 9.45 A.M., September 9, to inspect the ship and crew, the "Nantucket" getting underway at 9.55. Exercises were conducted at "man overboard," "sail drill," "abandon ship" and "fire quarters." At 2 P.M. we proceeded to Boston, via the main ship channel, and at 3.33 anchored off State Street, at which time the Commissioners left the ship. At 4.10 we hove up anchor and at 4.45 went alongside Pier No. 1 (east side) at the navy yard.

During the entire cruise, the health of the officers, cadets and crew was generally excellent.

Coal Consumption.	Tons.
Coal on hand and received,	575.0
Expended,	473.0
Remaining,	102.0
Itemized account of coal expended: —	
Moving ship,	248.8
Dynamos and auxiliary machinery,	173.5
Distilling,	41.3
Galley,	9.4
Total,	473.0

Miles steamed, 5,093; miles per ton, 20.45.

Itinerary.

The following is the itinerary of the summer cruise, 1920, and I believe that for a coasting cruise, it was an excellent one: —

Ports.	Distance (Miles).	Left.	Arrived.
Boston–Provincetown,	51	May 11	May 11
Provincetown–St. Thomas, W. I.,	1,586	May 12	May 21
St. Thomas–Culebra, P. R.,	34	May 27	May 27
Culebra–San Juan, P. R.,	68	June 4	June 5
San Juan–Guantanamo, Cuba,	547	June 10	June 13
Guantanamo–Santiago de Cuba,	53	June 17	June 17
Santiago de Cuba–Charleston, S. C.,	979	June 21	June 26
Charleston–Norfolk, Va.,	436	June 30	July 2
Norfolk–Newport News, Va.,	15	July 9	July 9
Newport News–Washington, D. C.,	183	July 10	July 12
Washington–Annapolis, Md.,	151	July 16	July 17
Annapolis–Norfolk, Va.,	153	July 21	July 24
Norfolk–Nantucket,	436	July 28	July 31
Nantucket–Mattapoisett,	57	Aug. 11	Aug. 12
Mattapoisett–Greenport, L. I.,	85	Aug. 23	Aug. 24
Greenport–Gloucester,	231	Sept. 2	Sept. 3
Gloucester–Boston,	28	Sept. 9	Sept. 9
	5,093		

Officers and Instructors.

The following are the officers and instructors now connected with the school: —

Superintendent and commanding officer, Capt. Armistead Rust, U. S. N., retired.

Executive officer, Commander Howard G. Copeland, U. S. N. R. F. (graduate M. N. S.).

Navigator, John W. Thompson (graduate M. N. S.).

Watch officer, Lieut. Norman E. Merrill, U. S. N. R. F. (graduate M. N. S.).

Watch officer, Chief Boatswain Timothy Sullivan, U. S. N., retired.

Chief engineer, Lieut. Ervin L. Kelley, U. S. N. R. F. (graduate M. N. S.).

Assistant engineer, Calvin W. Simonds (graduate M. N. S.).

Instructor in mathematics, Arthur B. Frizell, A. M.

Medical officer, James J. Putnam, M.D.

Paymaster and captain's clerk, Edward S. Groves.

Appointments.

Name.	Title.	Date.
William E. McKay,	Commissioner,	July 1, 1920
William J. Nash,	Paymaster,	Mar. 5, 1920
Chief Boatswain Timothy Sullivan, U. S. N., Retired.	Watch officer,	Mar. 31, 1920
Lieut. Norman E. Merrill, U. S. N. R. F.,	Watch officer,	Apr. 1, 1920
Dr. James J. Putnam,	Medical officer,	Oct. 14, 1920
Arthur B. Frizell, A.M.,	Instructor in mathematics,	Oct. 18, 1920
Edward S. Groves,	Paymaster,	Dec. 1, 1920

Resignations.

Name.	Title.	Date.
Adolph E. Salsburg,	Paymaster,	Feb. 29, 1920
Lieut. E. V. Sandstrom, U. S. N.,	Watch officer,	Mar. 30, 1920
Lieut. Nicolai Sivertsen, U. S. N. R. F.,	Watch officer,	Mar. 31, 1920
Myron A. Strammer, M.D.,	Medical officer,	Oct. 31, 1920
William J. Nash,	Paymaster,	Dec. 15, 1920

Cadet Officers of the Massachusetts Nautical School.

Summer Term, 1920.

William G. Watt, *Cadet Master.*

Navigation.

Earle S. Stevens, ... *Cadet First Officer.*
J. Francis Devlin, ... *Cadet Second Officer.*
David F. Atwood, ... *Cadet Third Officer.*

Engineering.

John D. Young, ... *Cadet Engineer.*
Joseph H. Flanagan, ... *Cadet First Assistant Engineer.*
Robert D. McCreery, Jr., ... *Cadet Second Assistant Engineer.*

Petty Officers.

(*Deck.*)

Arnold L. Franklin.
Ralph I. Colson.
Roger W. Clarke.
J. Harlan Sawyer.
John A. Robertson.
Francis E. Donnelly.
Alexander M. S. Paddock.
William S. Tyrrell.

(*Engineering.*)

John L. Flanagan.

WINTER TERM, 1920–21.

Arnold L. Franklin, *Cadet Master.*

Navigation.

M. Read Colgan, ... *Cadet First Officer.*
Charles H. Coughlin, ... *Cadet Second Officer.*
John A. Robertson, ... *Cadet Third Officer.*

Engineering.

John B. Smith, ... *Cadet Engineer.*
Frederick L. Murphy, ... *Cadet First Assistant Engineer.*
George J. Hohenberger, ... *Cadet Second Assistant Engineer.*

Petty Officers.

(*Deck.*)

Frank J. Curley.
Bertram S. Bailey.
M. Oliver Lewis.
Leighton S. Hammond.
Herbert A. Beaumont.
Ernest A. Tupper.
Clarence M. Nelson.
Frederic W. Mahoney.

(*Engineering.*)

Warren M. Messier.

CADETS ADMITTED, GRADUATED, AND HONORABLY DISCHARGED, FROM 1893 TO 1920, INCLUSIVE.

	Admitted.			Graduated.			Honorably discharged.			Withdrawn, dismissed, dropped.	Number connected with the School.
	Seamanship Class.	Engineer Class.	Totals.	Seamanship Class.	Engineer Class.	Totals.	Seamanship Class.	Engineer Class.	Totals.		
1893,	141	–	141	–	–	–	29	–	29	24	138
1894,	42	21	63	–	–	–	26	17	43	18	156
1895,	33	38	71	19	19	38	6	6	12	6	156
1896,	35	39	74	20	17	37	16	15	31	17	174
1897,	32	41	73	20	21	41	10	10	20	9	165
1898,	42	57	99	15	25	40	12	14	26	23	194
1899,	34	45	79	11	12	23	24	17	41	11	184
1900,	28	50	78	14	36	50	9	12	21	14	186
1901,	34	37	71	11	18	29	8	12	20	16	172
1902,	32	58	90	16	22	38	16	18	34	13	197
1903,	34	32	66	17	14	31	10	15	25	17	178
1904,[1]	–	–	60	16	29	45	5	12	17	31	165
1905,[1]	–	–	65	10	10	20	–	–	9	13	137
1906,[1]	–	–	50	16	19	35	–	–	18	19	145
1907,[1]	–	–	60	10	15	25	–	–	17	26	133
1908,[1]	–	–	45	8	10	18	–	–	9	9	110
1909,[1]	–	–	81	14	22	36	–	–	7	16	156
1910,[1]	–	–	54	6	16	22	–	–	16	15	151
1911,[1]	–	–	69	20	23	43	–	–	7	18	168
1912,[1]	–	–	57	17	16	33	–	–	14	15	157
1913,[1]	–	–	79	21	19	40	–	–	20	8	174
1914,[1]	–	–	65	20	16	36	–	–	22	7	171
1915,[1]	–	–	70	26	19	45	–	–	18	11	176
1916,[1]	–	–	73	23	15	38	–	–	36	3	175
1917,[1]	–	–	69	26	11	37	–	–	16	3	167
1918,[1]	–	–	66	31	17	48	–	–	10	4	178
1919,[1]	–	–	77	37	18	55	–	–	17	5	193
1920,[1]	–	–	70	35	15	50	–	–	13	7	186
Totals,	–	–	2,015	479	474	953	–	–	568	378	–

[1] Since 1904 the cadets have been unclassified during the first year of their course.

Membership of the School.

Graduating Class, March, 1920.

* Received 85 per cent, or over, and entitled to wear gold star on coat collar.

Seamanship Division.

*** Landrey, Francis X.,**	Roslindale.
Dean, Joseph G.,	Springfield.
*** Colburn, Erwin F.,**	Somerville.
Collins, Theodore,	Plymouth.
Kant, Henry W.,	Allston.
Full, Fred M., Jr.,	Rockport.
Jacques, Laurence R.,	Springfield.
Steinmetz, Fred C. B.,	Springfield.
Tilton, Ralph E.,	Fitchburg.
Whittemore, Joseph K.,	West Roxbury.
Osborne, Roger W.,	East Lynn.
Hannan, John F.,	Gloucester.
Taylor, Richard B.,	West Somerville.
Coughlin, Daniel J.,	Lowell.
Coughlin, Thomas F.,	Dorchester.
Freeman, Charles A., Jr.,	Taunton.
Bartlett, Clarence A.,	Lowell.
Griffin, Oswald J.,	Fall River.
Hartley, Noble M.,	Winthrop.
O'Sullivan, Mortimer P.,	Medford.

Engineering Division.

Berteaux, Arthur G.,	Boston.
Burke, Joseph F.,	Everett.
Warner, Ralph B.,	Marlborough.
Kenyon, Chesley L.,	Chester.
Clegg, Earle F.,	Worcester.
Hendy, William R.,	Stow.
Gibson, Charles J.,	Beverly.
Donahue, Joseph H.,	Lawrence.
Oldroyd, James N.,	Lynn.

Graduating Class, September, 1920.

Seamanship Division.

*** Watt, William G.,**	Auburndale.
Devlin, J. Francis,	Salem.
Clarke, Roger W.,	Auburndale.
Stevens, Earle S.,	Readville.
Atwood, David F.,	West Falmouth.
Lord, George P.,	Salem.

Donnelly, Francis E.,	Roslindale.
Colson, Ralph I.,	Everett.
Sawyer, J. Harlan,	Weston.
Brown, Lorenzo C.,	Everett.
Bowen, Raymond A.,	Gloucester.
Bartlett, Charles H.,	Roslindale.
Clark, Charles R.,	Lynn.
Tyrrell, William S.,	Cambridge.
Paddock, Alexander M. S.,	Cambridge.

Engineering Division.

Gordon, Max.,	Dorchester.
Flanagan, Joseph H.,	Lawrence.
Young, John D.,	Winthrop.
McCreery, Robert D., Jr.,	Lawrence.
Mariner, Robert D.,	Cambridge.
Flanagan, John L.,	Lawrence.

Class to Graduate, March, 1921.

Seamanship Division.

* **Franklin, Arnold L.**,	Springfield.
Tupper, Ernest A.,	Lowell.
Bailey, Bertram S.,	East Boston.
Curley, Frank J.,	Dedham.
Severne, Homer A.,	Dorchester.
Nelson, Clarence M.,	Provincetown.
Colgan, M. Read,	Brookline.
Taylor, Robert E.,	Mattapan.
Coughlin, Charles H.,	Lowell.
Robertson, John A.,	Boston.
Hammond, Leighton S.,	Marion.
Barkley, George,	Holyoke.
Rhodes, Robert S. F.,	Worcester.
Hutchins, Trafton,	Haverhill.
Harlow, Frederick L.,	Cotuit.
O'Sullivan, Roger J.,	Medford.
Lewis, M. Oliver,	New Bedford.
Bailey, Edward N.,	Rockport.
McDonald, James A.,	Lowell.
Crawford, Theodore,	Allston.

Engineering Division.

* **Smith, John B.**,	Hyannisport.
* **Murphy, Frederick L.**,	Roxbury.
LeCour, Harold J.,	Winthrop.

McKinley, James G.,	Lowell.
* **Hohenberger, George J.,**	Holyoke.
Hardy, Raymond N.,	West Somerville.
Pilkington, Albert I.,	Mansfield.

CLASS TO GRADUATE, OCTOBER, 1921.

Seamanship Division.

Perkins, George A.,	North Carver.
Smith, August L.,	Westwood.
Atkinson, Philip W.,	Fitchburg.
Marvin, Theodore W.,	Roxbury.
Stowers, Lawrence R.,	Stoneham.
Hennessy, John C.,	West Medford.
Wells, J. Blaisdell,	Somerville.
Foster, Charles G.,	East Brewster.
MacLellan, Norman D.,	South Hanson.
McLaughlin, Edward C.,	Charlestown.
Perry, Alfred T.,	Nantucket.
Sise, Edward F.,	Medford.
Sullivan, Lawrence T.,	East Boston.
Cousins, Raymond A.,	Framingham.
Lavin, George J.,	Melrose.
Godfrey, Alphonsus J.,	Dorchester.

Engineering Division.

* **Bedell, Lancelot S.,**	Brookfield.
Hanson, Henry C., Jr.,	Kingston.
Noonan, William J., Jr.,	Mansfield.
Vera, George A.,	New Bedford.
Murphy, Gerald D.,	Brockton.
Clancy, Wilbur G.,	East Methuen.
Strong, J. Lyttleton,	Weston.
Messier, Warren M.,	Watertown.
Mew, Thomas J.,	Holyoke.
McAfee, William C.,	Woods Hole.
Moriarty, John J.,	Holyoke.
Twombley, Raymond H.,	North Andover.

CLASS TO GRADUATE, MARCH, 1922.

Mayo, Kenneth C.,	Provincetown.
Mahoney, William C.,	Somerville.
Murray, Ernest D.,	Everett.
Johnson, Everett F.,	Gloucester.
Beaumont, Herbert A.,	Dorchester.
Moore, Harvey W.,	West Somerville.

Gordon, Roy Y.,	Somerville.
Smith, Francis J.,	Lawrence.
Bosler, John D.,	Holyoke.
MacIntyre, Angus S.,	Provincetown.
Walker, George M.,	Lowell.
Mahoney, Frederic W.,	Somerville.
Hancock, Vincent F. J.,	Fall River.
Gross, Gerald W.,	Marstons Mills.
Geddes, W. Ernest,	Attleboro.
Worth, George W.,	Cambridge.
Sillars, Malcolm O.,	Danvers.
Mulvey, John F.,	Roslindale.
Brady, Arthur O.,	Rockland.
Lewis, Gilbert E.,	Lawrence.
Hourihan, Charles D.,	Revere.
Brooks, Dexter M.,	Wakefield.
Barry, William J.,	Lawrence.
Burgess, Carroll P.,	Bournedale.

Class to Graduate, October, 1922.

(Alphabetically arranged.)

Baker, E. Stanley,	Manchester.
Beatson, Edward C.,	Ludlow.
Bell, Algernon H.,	Swansea.
Bouvier, Edward A.,	Marlborough.
Butler, Gordon B.,	Campello.
Carreiro, George F.,	Fall River.
Crosby, John B.,	Eastham.
Crowell, Nathan S.,	East Dennis.
Cudios, Emerson J.,	Provincetown.
Devlin, John F.,	South Boston.
Dorgan, Lawrence E.,	Brockton.
Drummond, William J.,	Lawrence.
Dunning, Robert H.,	West Somerville.
Fardon, Ralph L.,	West Roxbury.
Farrell, Webster G.,	Canton.
Harlow, Louis F.,	North Easton.
Howard, John P.,	Waltham.
Johnson, Lloyd M.,	Allston.
Johnson, Otto W.,	Dorchester.
Judd, Eric V. T.,	Lowell.
Jung, George J.,	Medford.
Kaplan, Jacob,	Boston.
Knapp, Donald C.,	Lowell.
Lawrence, Harvey S.,	Groton.
Norcross, Richard W.,	Needham.

Olsen, Eliot,	East Milton.
Pierce, Hosea T.,	Rockport.
Pierce, Robert M.,	Gloucester.
Redfield, Scranton H.,	Lynn.
Rhodes, Everett A.,	Worcester.
Sibley, Ernest G.,	Norton.
White, Norman B.,	Malden.
Whittredge, Thomas J.,	Lynn.
Woods, Robert P.,	Kingston.
Wuest, Frank R.,	Lawrence.

Register of Graduates.

Officers in the Merchant Marine.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1900	Joseph E. Gately, . . .	Marlborough, .	District director of operations.	United States Shipping Board, Philadelphia, Pa.
1901	John J. Coholan, . . .	Dorchester, . .	Marine superintendent.	United States Shipping Board, Boston.
1903	Robert B. Powers, . .	Brockton, . .	Marine superintendent.	United States Shipping Board, Philadelphia, Pa.
1899	Edward G. Smith, . .	Boston, . . .	Port captain, . .	Freeport Sulphur Company.
1905	Walter L. Smith, . . .	Ashburnham, .	Port captain, . .	United States Shipping Board, Baltimore, Md.
1905	Frederick S. Walker, . .	Everett, . . .	Port captain, . .	New England Fuel and Transportation Company.
1911	Norris T. Ela, ...	Douglas, . .	Marine superintendent.	W. R. Wiest & Co., Baltimore, Md.
1916	John W. Simmons, . .	Springfield, .	Assistant marine superintendent.	International Mercantile Marine Lines.
1894	James E. Reardon, . .	Roxbury, . .	Captain, . . .	"Lake Frugality."
1894	Albert L. Warner, . . .	Wollaston, . .	Captain, . . .	"Lake Gardner."
1895	Walter J. Healey, . . .	Worcester, . .	Captain, . . .	"E. T. Bedford."
1896	William N. P. Baker, . .	Brooklyn, . .	Captain, . . .	"Minnequa."
1896	Alvin W. Haynes, . . .	Somerville, . .	Captain, . . .	"Colon."
1896	Henry R. Bodge, . . .	Wollaston, . .	Captain, . . .	"Northland."
1896	Geo. R. Lauriat, . . .	Fort Moultrie, .	Captain, . . .	"Gen. Brannan."
1897	H. W. G. Atkins, . . .	Reading, . .	Captain, . . .	– –
1897	Frederick W. Jones, . .	Winchester, .	Captain, . . .	– –
1897	Mina Dailey, ...	Rockport, . .	Captain, . . .	"Harwood."
1897	Chas. W. Clift, ...	Whitman, . .	Captain, . . .	"Gen. J. M. Schofield."
1898	Louis E. Congdon, . .	Boston, . . .	Captain, . . .	"Indianapolis."
1898	Carl E. A. Anderson, . .	Brooklyn, . .	Captain, . . .	"Arizonan."
1899	Walter S. Lynch, . . .	Chelsea, . . .	Captain, . . .	– –
1899	Richard T. Blackford, .	Marblehead, .	Captain, . . .	– –
1900	William B. Knight, . .	Bellingham, .	Captain, . . .	"Catherine D."
1900	James S. Howes, . . .	Woods Hole, .	Captain, . . .	"West Mahomet."
1901	Theodore H. Bicknell, .	Melrose, . . .	Captain, . . .	"Herman Frasch."
1901	Charles D. Harrington, .	Boston, . . .	Captain, . . .	"Mascotte."
1901	Robert W. Tucker, . .	Kendal Green, .	Captain, . . .	"Ipswich."
1902	Osborne E. McKay, . .	Sagamore, . .	Captain, . . .	"Casey."
1902	A. Russell Cushing, . .	Allston, . . .	Captain, . . .	"Mehanno."
1902	Edwin J. Madden, . .	Clifton, N. J., .	Captain, . . .	– –
1903	Nicholas J. Kane, . . .	Brooklyn, . .	Captain, . . .	"Panaman."
1903	Mark Woodbury, . . .	San Francisco, .	Captain, . . .	"Lake Glenco."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1903	Benj. O'Connell,	Peabody,	Captain,	"Wheeling Mold."
1904	Andrew J. Iverson,	Bristol,	Captain,	"Lake Geneva."
1904	Edward C. Roberts,	No. Beverly,	Captain,	"Ulysses."
1905	Harold H. Gridley,	Dorchester,	Captain,	"Caddo."
1905	James A. Crocker,	Nahant,	Captain,	"Yesoking."
1906	Geo. C. Bosson,	Reading,	Captain,	"James S. Whitney."
1907	Elmer B. Small,	No. Truro,	Captain,	"Panuco."
1907	William M. Gifford,	Woods Hole,	Captain,	"Belleflower."
1907	Frederic A. Gainard,	Chelsea,	Captain,	– –
1908	Eugene P. Shevlin,	E. Boston,	Captain,	– –
1908	Edward S. Ells, Jr.,	Haverhill,	Captain,	– –
1909	Harold C. Cooper,	Worcester,	Captain,	"Polarine."
1909	Carroll E. Higgins,	Somerville,	Captain,	"Half Moon."
1909	William A. Sillars,	Danvers,	Captain,	"Niobe."
1909	Robert S. Sparrow,	Eastham,	Captain,	"Tuckanuck."
1910	Chester E. Morris,	Brooklyn,	Captain,	"Aledo."
1911	Charles F. Fornason,	Marblehead,	Captain,	"Dochet."
1911	Harold S. Dexter,	Mattapoisett,	Captain,	– –
1911	Henry O. K. Hanson,	Neponset,	Captain,	– –
1911	Raymond C. Vose,	Norfolk,	Captain,	"Dauperata."
1911	Eugene W. Miller,	E. Saugus,	Captain,	"Chinampa."
1912	Harold Ertel,	Longmeadow,	Captain,	"Bayhead."
1912	Russell A. Eastman,	Mattapoisett,	Captain,	"Orcus."
1912	Alex. G. Perkins, Jr.,	Newburyport,	Captain,	"Achilles."
1912	Robert M. Gray,	Melrose,	Captain,	"Peter H. Crowell.
1913	Everett O. Swinson,	E. Gloucester,	Captain,	"Gen. Goethals."
1913	Arthur G. Burt,	Whitman,	Captain,	– –
1913	Borden A. Tuell,	New Bedford,	Captain,	"Vanada."
1913	Ralph W. Dearborn,	Mansfield,	Captain,	"Alloway."
1913	John A. Maddock,	Newburyport,	Captain,	– –
1913	Wilfred H. Senior,	Dorchester,	Captain,	"Romance."
1914	Nelson T. Nutter,	Newburyport,	Captain,	"Chamblee."
1914	James A. Stowell,	Walpole,	Captain,	– –
1915	George T. Horan,	Dorchester,	Captain,	"Lake Flushing."
1915	Chas. H. Hurley, Jr.,	Gardner,	Captain,	"Mary Manson Greener."
1915	Leland M. Marshall,	Allston,	Captain,	"Advance."
1915	Chas. E. Griffith,	Cambridge,	Captain,	"Lake Getaway."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1916	William E. Lord, . . .	Springfield, . .	Captain, . . .	"Lake Tippah."
1916	Clayton W. Collins, . .	Waquoit, . .	Captain, . . .	"Baytown."
1917	Sydney L. MacLaughlin, .	Wollaston, . .	Captain, . . .	"Plainfield."
1895	Harold W. Davis, . . .	Somerville, . .	First officer, . .	"Cottonwood."
1895	Geo. L. P. Covell, . . .	Roxbury, . .	First officer, . .	United States Shipping Board.
1897	Herbert P. Smith, . . .	Nantucket, . .	First officer, . .	– –
1898	Harlowe Johnson, . . .	Mattapoisett, .	First officer, . .	– –
1898	Charles H. Kilmer, . .	Somerville, . .	First officer, . .	"West Eagle."
1898	James H. Willey, . . .	Santa Cruz, .	First officer, . .	"West Ira."
1900	Clayton G. Parsons, . .	Salem, . . .	First officer, . .	"West Cape."
1900	E. Newton Parker, . .	Greenfield, . .	First officer, . .	"Brookline."
1900	Edward Smith, ...	Melrose, . . .	First officer, . .	"Hartford."
1900	Alfred M. Cummings, .	Worcester, . .	First officer, . .	"Virginian."
1906	Lewis B. Butler, . . .	Worcester, . .	First officer, . .	"Lake Fear."
1907	Philip B. Marcy, . . .	Brookline, . .	First officer, . .	"Ameland."
1908	Chester B. Mellen, . .	Bridgeport, . .	First officer, . .	"Mangore."
1910	Charles H. Tumey, . .	Southbridge, .	First officer, . .	– –
1911	Charles C. Plummer, . .	Cambridge, .	First officer, . .	"Western Scout."
1911	Wesley F. Besse, . . .	W. Somerville, .	First officer, . .	"W. J. Hanna."
1912	Herbert A. Burns, . . .	New Bedford, .	First officer, . .	– –
1912	Harold L. Winslow, . .	Canton, . . .	First officer, . .	"Major Wheeler."
1912	Ralph E. Merithew, . .	Haverhill, . .	First officer, . .	"Saccarappa."
1912	Kenneth E. Cahoon, . .	W. Tisbury, .	First officer, . .	"Aurora."
1912	William H. O'Donoghue, .	Roxbury, . .	First officer, . .	"Western Star."
1912	Joseph M. Daniel, . . .	Osterville, . .	First officer, . .	– –
1912	Ellenwood Folger, . . .	Siasconset, . .	First officer, . .	– –
1912	Albert H. Acorn, Jr., . .	Malden, . . .	First officer, . .	"Lake Fostoria."
1913	Philip J. Fanning, . .	Baltimore, . .	First officer, . .	"Indiana Bridge."
1913	James A. MacCabe, . .	Osterville, . .	First officer, . .	– –
1913	Philip H. Waldron, . .	E. Milton, . .	First officer, . .	"Coahoma County."
1913	Frederick L. Howland, .	So. Dartmouth,	First officer, . .	"Western Ally."
1913	Waldon A. McIntire, . .	E. Gloucester, .	First officer, . .	"Martha Washington."
1913	Frank H. Nelson, . . .	Fall River, . .	First officer, . .	"Florence Luckenbach."
1913	Gregory B. Nichols, . .	Danvers, . .	First officer, . .	"Limon."
1914	Samuel J. Lee, ...	Roxbury, . .	First officer, . .	"Pasadena."
1914	Geoffrey C. O'Donoghue,	Roxbury, . .	First officer, . .	"Mascotte."
1914	John L. Kirchner, . . .	Hinsdale, . .	First officer, . .	– –

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1914	Gerard R. Crosby,	Orleans,	First officer,	"Minnesotan."
1914	Samuel A. Gates,	Malden,	First officer,	"Englewood."
1914	F. Palmer Harrington,	Malden,	First officer,	"Putnam."
1915	Ralph S. Moore,	New York,	First officer,	"Steel Mariner."
1915	Martin F. Comeau,	Belmont,	First officer,	– –
1915	Arthur A. Hovgaard,	Brookline,	First officer,	"West Raritans."
1915	Ronald B. Ford,	Lawrence,	First officer,	"Yukon."
1915	Albert V. Jones,	Fall River,	First officer,	"Caldas."
1915	William C. Davenport,	New Bedford,	First officer,	– –
1915	Chas. N. Bamforth,	So. Lincoln,	First officer,	"Mount Clay."
1915	Earle D. Hammond,	E. Mattapoisett,	First officer,	– –
1915	Herman S. Mayo,	Provincetown,	First officer,	"Fairmont."
1916	Peter J. Jakmauh,	So. Boston,	First officer,	"West Inskip."
1916	Richard H. Dunphe,	Brockton,	First officer,	"Yaguiana."
1916	J. Prescott Mahoney,	W. Wareham,	First officer,	"Cantigny."
1916	Paul H. Browne,	Roslindale,	First officer,	"Satartia."
1916	Arthur J. Kenney,	Brookline,	First officer,	"Circinus."
1916	Harold R. Congdon,	Somerville,	First officer,	"Amolco."
1916	John A. Rylander,	Springfield,	First officer,	"Steel Trader."
1916	Thomas B. Lufkin,	Gloucester,	First officer,	"Katahdin."
1916	Charles A. Martell,	Somerville,	First officer,	"Steel Engineer."
1916	Randall F. Elder,	Brighton,	First officer,	"Cabeza."
1916	Edwin T. Fletcher,	Springfield,	First officer,	– –
1917	Alan R. Barton,	Winthrop,	First officer,	"Lake Yelverton."
1917	Alton E. Borden,	Fall River,	First officer,	– –
1917	Russell W. Thresher,	Southbridge,	First officer,	"Steelmaker."
1917	Franklin B. Atwood,	Nantucket,	First officer,	"Delco."
1917	David M. McLaren,	Dedham,	First officer,	"Eten."
1917	A. Henry Rowe,	Roslindale,	First officer,	"Kisnop."
1917	Herbert W. Susmann,	Dorchester,	First officer,	"Lake Bledsoe."
1917	Ivan Freeman,	E. Orleans,	First officer,	"Ossaban."
1917	Robert H. Sheridan,	Stoneham,	First officer,	"Nora."
1917	Luther C. Kingsbury,	Wellesley,	First officer,	"Riverside Bridge."
1918	Hartley Hoffses,	Quincy,	First officer,	"West Loquassuck."
1918	Alden L. Strout,	Boston,	First officer,	"Jonancy."
1918	Max Distelman,	Newburyport,	First officer,	"Hegina."
1918	William H. Fitzgerald,	Revere,	First officer,	"Chester Valley."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1918	Jacob Popkin, ...	Malden, . . .	First officer, . .	"Yuka."
1918	Leonard C. Walen, . .	Gloucester, . .	First officer, . .	"Osawatomie."
1918	Alex. G. Anderson, . .	Dorchester, . .	First officer, . .	"Lake Cannonsburg."
1918	James E. Fraser, . . .	Boston, . . .	First officer, . .	"Agwimoon."
1919	Harry C. Lord, ...	Springfield, . .	First officer, . .	"Lake Fragality."
1919	Charles F. Bossom, . .	Arlington, . .	First officer, . .	"Macerata."
1894	Alfred J. O'Leary, . . .	Worcester, . .	Second officer, .	"Adacia."
1902	George Castle, ...	Lynn, . . .	Second officer, .	"Lake Fanning."
1904	Leslie F. Holmes, . . .	Whitman, . .	Second officer, .	– –
1904	Charles H. Stoddard, . .	Brookline, . .	Second officer, .	– –
1906	John Ruyter, ...	Rochester, . .	Second officer, .	"Lake Ellio."
1907	Frazier L. Sears, . . .	New York, . .	Second officer, .	Standard Oil Company.
1907	Herbert Garity, . . .	Boston, . . .	Second officer, .	"Dorothy."
1910	Franklin K. Tyler, . .	Beachmont, .	Second officer, .	"Saramacca."
1911	Angelo A. Aicardi, . .	So. Boston, . .	Second officer, .	– –
1913	Alden L. Hodges, . . .	Boston, . . .	Second officer, .	"Lake Linden."
1914	Joseph L. Turner, . . .	Amherst, . .	Second officer, .	– –
1914	William H. Fogarty, . .	Dorchester, .	Second officer, .	"Afoundria."
1914	Laurence L. Horton, . .	W. Haven, . .	Second officer, .	"Prince Frederick Henry."
1914	Edward F. Murphy, Jr., .	Fall River, . .	Second officer, .	"Lewis Luckenbach."
1914	David H. Swinson, . .	E. Gloucester, .	Second officer, .	"Lancaster."
1915	Russell C. Damon, . .	Hingham, . .	Second officer, .	"Lake Ellsbury."
1915	Curtis C. Fales, . . .	Westborough, .	Second officer, .	I. M. M. Lines.
1915	Chas. P. Jacobson, . .	Everett, . . .	Second officer, .	"Oskawa."
1915	Harold F. Craven, . .	Lawrence, . .	Second officer, .	"Currier."
1915	Sidney F. Nichols, . .	Worcester, . .	Second officer, .	"Malden."
1915	Russell L. Saunders, . .	Allston, . . .	Second officer, .	"West Loquassuck."
1916	Frank M. Perrin, . . .	Worcester, . .	Second officer, .	– –
1916	John T. Crowell, Jr., . .	Gloucester, . .	Second officer, .	– –
1916	Harold S. Ireland, . .	Somerville, . .	Second officer, .	"Sutherland."
1916	Clifford E. Stanley, . .	Salem, . . .	Second officer, .	United States Shipping Board.
1916	Fred E. Wilcox, . . .	Indian Orchard,	Second officer, .	– –
1917	Percy A. Crosbie, . . .	Everett, . . .	Second officer, .	"Chester Valley."
1917	Earl S. Francis, . . .	Athol, . . .	Second officer, .	– –
1917	Arthur S. Phelan, . . .	Lynn, . . .	Second officer, .	"Steel Trader."
1917	William M. Preston, . .	Beverly, . . .	Second officer, .	– –
1917	Charles F. Huffman, . .	W. Somerville, .	Second officer, .	"West Hambrie."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1917	William W. Storey,	Stoneham,	Second officer,	"San Mateo."
1917	Frank M. Moore,	Forest Hills,	Second officer,	"Malden."
1917	Harry Levine,	Cambridge,	Second officer,	– –
1917	Bradford S. Wilson,	Brookline,	Second officer,	– –
1917	Ernest V. Wyatt,	Boston,	Second officer,	"West Vaca."
1918	Robert P. Anderson,	Melrose,	Second officer,	"Lake Ellendale."
1918	James C. McKenzie,	Dorchester,	Second officer,	"Ahala."
1918	Raymond P. Abbott,	Newburyport,	Second officer,	"Sinsinawa."
1918	Ira D. Dean,	So. Natick,	Second officer,	"Cathcoon."
1918	Arthur B. Gibbs,	Nantucket,	Second officer,	"Houston."
1918	Harold S. Damon,	Plymouth,	Second officer,	"W. C. Teagle."
1918	G. Minard Cunningham,	Lawrence,	Second officer,	"Reginolite."
1918	Almer T. Hovland,	Newton Lower Falls.	Second officer,	"Lake Gakona."
1918	Geo. R. Stockbridge,	Wellesley,	Second officer,	"Lake Harminia."
1918	Wilbur W. Woods,	Provincetown,	Second officer,	"Yaka."
1918	Raymond E. Saunders,	W. Somerville,	Second officer,	– –
1918	James R. Moore,	Lexington,	Second officer,	"Lake Sunapee."
1918	James H. Lowry,	Canton,	Second officer,	"Lake Ellesmere."
1918	William S. Reagh,	Malden,	Second officer,	– –
1918	Gerald K. Sanborn,	Lawrence,	Second officer,	– –
1918	Gordon C. Mackie,	Cromwell, Conn.	Second officer,	"West Modus."
1918	James R. Heaney,	E. Lynn,	Second officer,	"Yamachichi."
1919	Llewellyn Roberts,	Arlington,	Second officer,	"Santa Malta."
1919	Nelson E. Gardiner,	Fitchburg,	Second officer,	"Schodack."
1919	Edmond F. Bemis,	E. Lynn,	Second officer,	"West Zula."
1919	Roy D. Hall,	Dennis,	Second officer,	"Contoocook."
1919	Paul E. Purdy,	Everett,	Second officer,	"Lake Farrabee."
1919	Harry E. Hopkins,	No. Eastham,	Second officer,	"William Green."
1919	Jos. W. Gosselin,	Nahant,	Second officer,	"Steelmaker."
1919	Gordon A. Littlefield,	Cambridge,	Second officer,	"Argon."
1919	Walter J. Cronin,	Somerville,	Second officer,	"Melrose."
1919	Paul Stone,	Pigeon Cove,	Second officer,	"Lake Delancey."
1919	Walter W. Jenness,	Malden,	Second officer,	"Quinneseco."
1919	Wm. H. Moulton,	Bedford,	Second officer,	"Lake Elliott."
1919	Sherman W. Reed,	Dorchester,	Second officer,	"Lake Fannin."
1919	Charles W. Torrey,	Rockland,	Second officer,	"Ohioan."
1919	Charles E. Gilman,	Somerville,	Second officer,	"Elkwater."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1920	Francis X. Landrey,	Roslindale,	Second officer,	"Western Star."
1905	Laurence G. Kelley,	Taunton,	Third officer,	– –
1912	Francis J. McGowan,	Somerville,	Third officer,	"Lake Grampus."
1913	John W. Crocker,	Nahant,	Third officer,	"El Occidente."
1916	Albert Bianchi,	Worcester,	Third officer,	– –
1916	John T. Crowell,	Gloucester,	Third officer,	– –
1916	Howard U. Chase,	Nantucket,	Third officer,	– –
1916	Byron H. Paine,	New Bedford,	Third officer,	– –
1917	Richard H. Hopkins,	W. Somerville,	Third officer,	"Santore."
1918	Edgar G. Glines,	Beverly,	Third officer,	"Roanoke."
1918	Raphael W. Hill,	Provincetown,	Third officer,	"Siboney."
1918	James J. Crowley,	No. Abington,	Third officer,	"Silver Shell."
1919	Frederick T. DeLeskey,	E. Boston,	Third officer,	"Corsica."
1919	John W. Donahoe,	Dorchester,	Third officer,	"Lake Larrabee."
1919	Harold B. Wilkinson,	Lynn,	Third officer,	"Lake Galando."
1919	Francis J. Harrington,	Revere,	Third officer,	"Faith."
1919	Harold T. Longmore,	Stoneham,	Third officer,	"Munamar."
1919	John J. Mahoney,	Revere,	Third officer,	"Lake Titman."
1919	Harry C. Howe,	Stoneham,	Third officer,	– –
1919	Arthur G. Morrill,	Melrose,	Third officer,	"Kroonland."
1919	Alfred A. Needham,	Manchester,	Third officer,	"Ardena."
1919	Geo. A. Henderson,	Brighton,	Third officer,	– –
1919	Robert S. O'Brion,	Malden,	Third officer,	"Carlton."
1919	Richard F. Nickerson,	So. Duxbury,	Third officer,	"Cape Henry."
1919	Wm. B. Studley, Jr.,	Fairhaven,	Third officer,	"Birmingham City."
1919	Ernest B. Waters,	Nahant,	Third officer,	"Corsicana."
1920	Daniel J. Coughlin,	Lowell,	Third officer,	"Cajacet."
1920	Fred M. Full, Jr.,	Rockport,	Third officer,	"Lake Galera."
1920	Clarence A. Bartlett,	Lowell,	Third officer,	"Western Comit."
1920	Noble M. Hartley,	Winthrop,	Third officer,	"Lake Fagundas."
1920	Thomas F. Coughlin,	Roslindale,	Third officer,	"Mercury."
1920	Laurence R. Jacques,	Springfield,	Third officer,	"Chas. Braley."
1920	Fred C. B. Steinmetz,	Springfield,	Third officer,	"Winona."
1920	Roger W. Osborne,	E. Lynn,	Third officer,	"Lackawanna."
1920	Theodore Collins,	Milton,	Third officer,	"Hoven."
1920	Joseph G. Dean,	Springfield,	Third officer,	"Astmahco."
1920	Chas. A. Freeman, Jr.,	Taunton,	Third officer,	"Lake Foch."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1920	Oswald J. Griffin,	Fall River,	Third officer,	"Astoria."
1920	Richard B. Taylor,	W. Somerville,	Third officer,	"Romulus."
1920	Erwin F. Colburn,	Somerville,	Third officer,	"San Jose."
1920	Ralph E. Tilton,	Fitchburg,	Third officer,	"Crawl Keys."
1920	Jos. K. Whittemore,	W. Roxbury,	Third officer,	"Lake Ferrona."
1920	J. Francis Devlin,	Salem,	Third officer,	"America."
1920	John F. Hannan,	Mattapan,	Third officer,	"Egremont."
1920	Geo. P. Lord,	Salem,	Third officer,	"Decatur Bridge."
1920	Raymond A. Bowen,	Gloucester,	Third officer,	"Red Mountain."
1900	Hollis M. Cornwall,	Melrose,	Superintendent, engineer.	Merchants and Miners Transportation Company.
1900	Norris R. Sibley,	Worcester,	Consulting engineer.	Westinghouse Electric Manufacturing Company.
1907	Paul R. Smith,	Brooklyn,	Superintendent, engineer.	Kerr Steamship Company.
1895	Michael D. Sullivan,	San Francisco,	Chief engineer,	"Rosencranz."
1898	William E. Ballsdon,	Neponset,	Chief engineer,	"Herman Winter."
1898	Wilbur S. Lamont,	Leominster,	Chief engineer,	"West Hargrave."
1898	Everett S. Ransom,	E. Mattapoisett,	Chief engineer,	– –
1898	Charles E. Rowe,	Lynn,	Chief engineer,	– –
1898	John C. Ganser,	Jersey City,	Chief engineer,	"Bird City."
1900	Charles E. Lowe,	Roxbury,	Chief engineer,	"Eastern Trader."
1900	Elmer P. Butterworth,	Port Arthur,	Chief engineer,	"Gulftrade."
1900	William Glover,	Wilmington,	Chief engineer,	"Mielero."
1901	Eugene I. K. Murphy,	New York,	Chief engineer,	– –
1901	Robert A. Patterson,	Cambridge,	Chief engineer,	– –
1902	Daniel F. Butler,	Waltham,	Chief engineer,	"Gloria."
1903	James S. McGarry,	New York,	Chief engineer,	"El Alba."
1903	Edmund E. Powers,	Cambridge,	Chief engineer,	"Texarkana."
1904	Charles W. Bumpus,	Wareham,	Chief engineer,	"City of Gloucester."
1904	Cecil L. McIntyre,	Ashmont,	Chief engineer,	"Olen."
1905	Walter C. Lockhart,	Washington,	Chief engineer,	– –
1905	Fred G. Carlton,	Maynard,	Chief engineer,	– –
1905	Charles F. Tarr,	Cambridge,	Chief engineer,	– –
1906	Augustus C. Caldwell,	Dorchester,	Chief engineer,	– –
1906	Victor M. Foster,	Revere,	Chief engineer,	"Tuckahoe."
1906	Arthur G. Burbank,	Carver,	Chief engineer,	– –
1907	George H. Stickney,	Watertown,	Chief engineer,	– –
1907	Samuel P. Osgood,	Middleboro,	Chief engineer,	"Bessemer City."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1907	Archie E. Bragg,	New Bedford,	Chief engineer,	– –
1908	Thomas B. Pellett,	Worcester,	Chief engineer,	– –
1909	Everett B. Ward,	New York,	Chief engineer,	– –
1909	William A. Sullivan,	E. Boston,	Chief engineer,	Mine sweeper.
1909	Leo A. Keating,	Natick,	Chief engineer,	"F. J. Luckenbach."
1909	Richard K. Henry,	Pittsfield,	Chief engineer,	"Silverbrook."
1909	Samuel J. Miller,	Fall River,	Chief engineer,	– –
1910	George W. Sibley,	Worcester,	Chief engineer,	"Geo. W. Barnes."
1910	R. Wilbur Anderson,	Mattapan,	Chief engineer,	"Passaic Bridge."
1911	Robert F. Phinney,	Mattapan,	Chief engineer,	"Matinicock."
1911	Harvey M. Thorndike,	Cliftondale,	Chief engineer,	"El Capitan."
1912	John M. Marks,	Gloucester,	Chief engineer,	"Burnwell."
1914	Arthur C. Goodwin,	Somerville,	Chief engineer,	"Chapelle."
1915	Philip J. Durney,	Gloucester,	Chief engineer,	"Gloucester."
1916	Percy C. Stevens,	Avon,	Chief engineer,	"Bassan."
1917	John D. Noonan,	Mansfield,	Chief engineer,	"Yaklok."
1918	John R. Donlin,	Medford,	Chief engineer,	"Cigarette."
1897	Augustus T. Holmes,	Ipswich,	First assistant engineer.	"J. M. Guffy."
1898	Frank P. Killion,	Honolulu,	First assistant engineer.	"Mauna Loa."
1898	Chas. E. Perry,	Hyde Park,	First assistant engineer.	"Elinor."
1900	Earle P. Marshall,	No. Easton,	First assistant engineer.	"Lake Buckeye."
1901	Ernest E. Sackett,	Lynn,	First assistant engineer.	"Wampum."
1902	Augustus W. Hart,	No. Truro,	First assistant engineer.	– –
1904	Benj. L. Welch,	Lynn,	First assistant engineer.	"Eastern Chief."
1904	Edward J. Chadbourne,	Reading,	First assistant engineer.	– –
1904	William Stewart,	Charlestown,	First assistant engineer.	– –
1905	Thomas W. Chisholm,	Washington,	First assistant engineer.	– –
1907	Joseph R. Wier,	Saundersville,	First assistant engineer.	"Mexican."
1909	William E. Caddigan,	Dorchester,	First assistant engineer.	– –
1909	Fritz T. Kebler,	Rochdale,	First assistant engineer.	"Henry F. Dimock."
1910	Leslie S. Badger,	Norfolk, Va.,	First assistant engineer.	"Galveston."
1910	Harold C. Grover,	Stoneham,	First assistant engineer.	– –
1912	Richard K. O'Connell,	No. Easton,	First assistant engineer.	"Nelson."
1913	Paul S. Rice,	Cambridge,	First assistant engineer.	"Arlington."
1913	Russell A. McLay,	Providence,	First assistant engineer.	"Currier."
1914	Leslie T. Severance,	Cambridge,	First assistant engineer.	"Malden."
1914	Fred H. Brewster,	Somerville,	First assistant engineer.	United States Shipping Board.

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1914	Benj. H. Allen, Jr.,	Lawrence,	First assistant engineer.	"Cambrai."
1914	Charles P. Tucker,	Boston,	First assistant engineer.	"Northern Wave."
1915	Roy C. Hartwell,	New York,	First assistant engineer.	"Arizonan."
1915	Arthur F. Higgins,	Lawrence,	First assistant engineer.	"Castlewood."
1915	Clarence E. Stevens, Jr.,	W. Barnstable,	First assistant engineer.	"Edward Pierce."
1915	Bernhardt Gerecke,	Boston,	First assistant engineer.	– –
1915	John F. Houston, Jr.,	Long Island,	First assistant engineer.	"Gen. Goethals."
1915	Arvid H. Winquist,	Mattapan,	First assistant engineer.	"Lake Forney."
1916	Henry A. Guba,	New Bedford,	First assistant engineer.	"Lake Benton."
1916	Paul Gorman,	Marlborough,	First assistant engineer.	"Chickasaw City."
1916	Carl E. Berglund,	Brockton,	First assistant engineer.	"Toledo."
1916	Alex. J. Phillips,	Easton,	First assistant engineer.	"Boundbrook."
1917	Arthur Massey,	No. Andover,	First assistant engineer.	"Conshohocken."
1917	Ernest E. Raby,	No. Easton,	First assistant engineer.	"Harvey Brown."
1917	Arthur D. Murphy,	Beverly,	First assistant engineer.	– –
1918	Wesley C. Clark,	Arlington Hts.,	First assistant engineer.	"Saugerties."
1918	Raymond H. Sample,	Montello,	First assistant engineer.	"Hohira."
1919	Loran H. Sanford,	Beverly,	First assistant engineer.	"F. Q. Barstow."
1919	Ronald G. Macintyre,	Fall River,	First assistant engineer.	"Cigarette."
1919	Edward H. Morin,	Stoneham,	First assistant engineer.	"Eastern King."
1919	Walter E. Carey,	Holyoke,	First assistant engineer.	"Coushatta."
1896	Arthur W. Higham,	Lawrence,	Second assistant engineer.	– –
1897	Perley W. Kimpton,	E. Somerville,	Second assistant engineer.	"Shawmut."
1903	Harold A. Thompson,	So.Framingham,	Second assistant engineer.	– –
1904	William A. Danforth,	Dorchester,	Second assistant engineer.	"Zerkle."
1908	Arthur E. Whiton,	Greenwood,	Second assistant engineer.	"Norwood."
1909	Frederick H. H. Sylvia,	Nantucket,	Second assistant engineer.	– –
1910	William Bowen,	Boston,	Second assistant engineer.	"Bunker Hill."
1911	David J. Fulton,	Wollaston,	Second assistant engineer.	"Pluto."
1911	George L. Lockhart,	Wakefield,	Second assistant engineer.	"Orion."
1911	Alfred Marques,	Charlestown,	Second assistant engineer.	– –
1911	Samuel D. White,	Hyannisport,	Second assistant engineer.	"Edward Pierce."
1912	Richard J. Cavanaugh,	New Bedford,	Second assistant engineer.	– –
1912	George R. Davison,	Springfield,	Second assistant engineer.	"Ancon."
1912	Louis H. Racicot,	Lowell,	Second assistant engineer.	"Ruth."
1913	Charles J. Balboni,	New Bedford,	Second assistant engineer.	"Bessemer."
1913	Edward J. Fogarty,	E. Boston,	Second assistant engineer.	"Ockenfels."

Officers in the Merchant Marine — Continued.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1914	Herbert T. Douglas, . .	W. Medford, .	Second assistant engineer.	"Lake Ontario."
1914	C. Harold Peterson, . .	Norwood, . .	Second assistant engineer.	– –
1914	Joseph L. Concannon, .	So. Boston, . .	Second assistant engineer.	"Brindella."
1915	John Holmes, ...	Campello, . .	Second assistant engineer.	– –
1915	Sherman J. Barrett, . .	Lawrence, . .	Second assistant engineer.	– –
1915	Stanislaus P. J. Ciolkosz, .	Taunton, . .	Second assistant engineer.	"West Jaffrey."
1916	William W. Thomas, . .	Concord, . .	Second assistant engineer.	– –
1916	Joseph P. Condrey, . .	Lowell, . . .	Second assistant engineer.	"Jimmie Castlewood."
1916	John E. Pilkington, . .	Mansfield, . .	Second assistant engineer.	"Oscalossa."
1916	Harold W. Sanford, . .	Springfield, .	Second assistant engineer.	– –
1917	Ernest C. Jensen, . . .	Provincetown, .	Second assistant engineer.	"Lydia."
1917	Herbert A. James, . .	Wellesley Farms,	Second assistant engineer.	"Lake Lida."
1917	John T. Foye, ...	Bridgewater, .	Second assistant engineer.	– –
1917	Dwight W. Boyd, . . .	Randolph, . .	Second assistant engineer.	"Lake Ellendale."
1918	Joseph Freeman, . . .	Revere, . . .	Second assistant engineer.	"Artegan."
1918	Ralph A. Evers, . . .	Somerville, . .	Second assistant engineer.	– –
1918	Elmer J. Kelley, . . .	Springfield, . .	Second assistant engineer.	"Lake Grogan."
1918	Stuart R. Colson, . . .	Whitman, . .	Second assistant engineer.	"O. T. Waring."
1918	Leroy B. Lowey, . . .	Woods Hole, .	Second assistant engineer.	"Jonancy."
1918	Francis J. Easton, . . .	Randolph, . .	Second assistant engineer.	"Branbrinno."
1918	Louis H. Johnson, . .	Andover, . .	Second assistant engineer.	"Lake Sapor."
1919	Warren L. Bailey, Jr., .	Worcester, . .	Second assistant engineer.	"Chappaqua."
1919	Carl W. Holmes, . . .	Brockton, . .	Second assistant engineer.	"City of Rome."
1919	Frank J. Couble, . . .	Brockton, . .	Second assistant engineer.	"Pocahontas."
1904	Alfred C. Blunt, . . .	Fitchburg, . .	Third assistant engineer.	"Lake Alvada."
1904	Thos. F. Gosnay, . . .	Wakefield, . .	Third assistant engineer.	– –
1907	Chas. S. McDonald, . .	Malden, . . .	Third assistant engineer.	– –
1911	Patrick S. Coakley, . .	Malden, . . .	Third assistant engineer.	– –
1911	Walter P. Lynn, . . .	Beverly, . . .	Third assistant engineer.	"Lake Copley."
1911	Joseph C. Chisholm, . .	No. Billerica, .	Third assistant engineer.	– –
1911	Levi E. MacLeod, . . .	Gloucester, . .	Third assistant engineer.	– –
1912	Walter L. Brewster, . .	Somerville, . .	Third assistant engineer.	"F. J. Lisman."
1913	Nils J. Peterson, . . .	Brockton, . .	Third assistant engineer.	– –
1914	Wesley H. Burton, . .	Plainville, . .	Third assistant engineer.	"Lake Delancey."
1915	Wilfred C. Herron, . .	Lawrence, . .	Third assistant engineer.	– –
1916	Carleton G. Reed, . .	Lexington, . .	Third assistant engineer.	– –
1916	Richard A. Standley, .	Beverly, . . .	Third assistant engineer.	"Lake Benton."

Officers in the Merchant Marine — Concluded.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1917	Philip H. Little, . . .	Holbrook, . .	Third assistant engineer.	"Lake Forney."
1918	John R. Carden, ...	Haverhill, . .	Third assistant engineer.	"Lake Fernwood."
1918	Bernard F. Hurld, . .	Stoneham, . .	Third assistant engineer.	"Van Dyke."
1918	Karl W. Newman, . .	Brockton, . .	Third assistant engineer.	"De Soto."
1919	John D. Cunningham, .	Quincy, . . .	Third assistant engineer.	"Lake Sapor."
1919	Guy M. Hanns, . . .	Waltham, . .	Third assistant engineer.	"Northern Wave."
1919	George C. Clements, . .	Lynn, . . .	Third assistant engineer.	"Vanguard."
1919	Thomas F. Cotter, . .	Lawrence, . .	Third assistant engineer.	"Ossa."
1919	Dominik J. Cusolito, . .	Somerville, . .	Third assistant engineer.	"Malden."
1919	George E. Forsberg, . .	Worcester, . .	Third assistant engineer.	"Anaconda."
1919	Charles B. Mitchell, . .	Lawrence, . .	Third assistant engineer.	"Lake Folcroft."
1919	Harding Smith, . . .	Nantucket, . .	Third assistant engineer.	"Allison."
1919	Charles H. Stickel, . .	E. Lynn, . .	Third assistant engineer.	"Bylayl."
1919	Roger N. Walcott, . . .	Concord, . .	Third assistant engineer.	"Tonesit."
1920	James N. Oldroyd, . .	Lynn, . . .	Third assistant engineer.	"Lake Butler."
1920	Earle F. Clegg, ...	Worcester, . .	Third assistant engineer.	"Puget Sound."
1920	William R. Hendy, . .	Stow, . . .	Third assistant engineer.	"Lake Frazee."
1920	Joseph F. Burke, . . .	Everett, . . .	Third assistant engineer.	"Point Loma."
1920	Ralph B. Warner, . . .	Marlborough, .	Third assistant engineer.	– –
1920	Joseph H. Donahue, . .	Lawrence, . .	Third assistant engineer.	Gulf Refining Company.
1920	Arthur G. Berteaux, . .	Boston, . . .	Third assistant engineer.	"Seneca."
1920	Chesley L. Kenyon, . .	Huntington, .	Third assistant engineer.	"Reginolite."
1920	John D. Young, . . .	Winthrop, . .	Third assistant engineer.	"Selitz."
1920	Charles J. Gibson, . . .	Beverly, . . .	Third assistant engineer.	"Crabtree."
1920	John L. Flanagan, . . .	Lawrence, . .	Third assistant engineer.	"Riverside Bridge."
1920	Joseph H. Flanagan, . .	Lawrence, . .	Third assistant engineer.	"Lake Lasang."
1895	Horace W. Folger, . . .	Wilmington, .	Pilot, ...	Boston Pilot Boat Service.
1900	I. Clarence Bailey, . .	Kingston, . .	Pilot, ...	Boston Pilot Boat Service.
1902	Arthur T. Luther, . . .	Swansea, . .	Pilot, ...	Panama Canal.
1915	David P. Delano, . . .	Orleans, . . .	Harbor master, .	Clyde & Mallory Lines.

Ship Construction.

1898	Joseph E. Sheedy, . .	Reading, . .	Assistant to president.	Downey Shipbuilding Corporation, Staten Island, N. Y.
1899	George F. Waite, . . .	Winthrop, . .	Superintendent, .	American International Shipbuilding Company.

Ship Construction — Concluded.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1901	David W. Warren, . . .	Everett, . . .	Master mechanic,	Curtis Bay Copper Iron Works.
1903	Edward J. Hogan, . .	Charlestown, .	Assistant superintendent.	Victory Plant, Squantum.
1909	Stanton Haversham, . .	Bridgeport, . .	Hull draftsman, .	Lake Torpedo Boat Company.
1911	Henry W. Ober, . . .	Everett, . . .	Electrician, . .	Fore River Shipbuilding Company.
1912	Joseph B. Sylvaro, . .	Dorchester, .	Electrician, . .	Fore River Shipbuilding Company.

With United States Shipping Board, Emergency Fleet Corporation.

1895	Edwin C. Bliss, . . .	No. Attleboro, .	– –	Ponta Delgada, Azores.
1895	Charles H. Lincoln, . .	Detroit, Mich.,	Marine surveyor and inspector.	– –
1897	Alden H. Adams, . . .	Groton, Conn.,	First-class loftsman.	Groton, Conn.
1901	Frank A. Browne, . . .	Westborough, .	General purchasing agent.	Philadelphia, Pa.
1911	Arthur McArdle, . . .	Sandwich, . .	Inspector, engineering.	Wilmington, Del.
1913	Arnold A. Laskey, . .	Oakland, Cal., .	Erecting engines,	Oakland, Cal.

Officers on Schoolship.

1900	Gershom Bradford, 2d, .	Duxbury, . .	Instructor in navigation.	United States Shipping Board.
1906	Howard G. Copeland, .	Malden, . . .	Executive officer,	U. S. S. "Nantucket."
1907	Calvin N. Simonds, . .	Needham, . .	Assistant engineer,	U. S. S. "Nantucket."
1909	Ervin L. Kelley, . . .	Medford, . .	Chief engineer, .	U. S. S. "Nantucket."
1912	John W. Thompson, . .	Fairhaven, . .	Navigating officer,	U. S. S. "Nantucket."
1912	Norman E. Merrill, . .	Walpole, . . .	Watch officer, .	U. S. S. "Nantucket."

In the United States Naval Reserve Force.

1894	William W. Ramsay, . .	Cambridge, .	Commander, . .	U. S. S. "Eagle, No. 29."
1902	Fred C. Seibert, . . .	Greenfield, . .	Commander, . .	U. S. S. "Relief."
1903	Harry M. Bostwick, . .	Conimicut, R. I.	Commander, . .	U. S. S. "Nereus."
1906	William H. Lee, . . .	Medford, . .	Commander, . .	U. S. S. "Houston."
1908	Ernest F. Robinson, . .	Greenville, N. H.	Commander, . .	U. S. S. "Patoka."
1896	James H. B. Meehan, .	Newport News,	Lieutenant Commander.	U. S. S. "Proteus."
1900	Winthrop R. Cutts, . .	Stoneham, . .	Lieutenant Commander.	U. S. S. "Houston."
1902	Arthur P. Jensen, . . .	Provincetown, .	Lieutenant Commander.	U. S. S. "Comfort."

In the United States Naval Reserve Force — Concluded.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1906	Bradford N. A. Gladding,	Norfolk, . . .	Lieutenant Commander.	U. S. S. "Kanawha."
1907	Harry L. Chick, . . .	Beverly, . . .	Lieutenant Commander.	Fifth Naval District.
1909	Eric E. Winquist, . . .	Mattapan, . .	Lieutenant Commander.	U. S. S. "Brazos."
1911	Frederic J. Shaw, . . .	Boston, . . .	Lieutenant Commander.	U. S. S. "Long Beach."
1912	William A. Hamilton, .	Portsmouth, .	Lieutenant Commander.	U. S. S. "Patoka."
1898	Richard Rowles, . . .	Jamaica Plain, .	Lieutenant, . .	U. S. S. "Mercy."
1908	Harold Larner, ...	Cambridge, .	Lieutenant, . .	Navy Yard, Boston.
1912	Clarence L. Howard, . .	Wellesley Farms,	Lieutenant, . .	U. S. S. "Neches."
1914	Ten Eyck H. Reed, . .	So.Framingham,	Lieutenant, . .	U. S. S. "Galveston."
1915	Leif H. Konrad, . . .	Roslindale, . .	Lieutenant, . .	U. S. S. "Cæsar."
1911	William M. Gorham, . .	Belmont, . .	Lieutenant (junior grade).	U. S. S. "Pensacola."
1914	James A. Sweeney, . .	E. Boston, . .	Lieutenant (junior grade).	U. S. S. "Murray."
1917	Stanley F. Roberts, . .	Springfield, .	Lieutenant (junior grade).	– –
1911	Roy G. Whittemore, . .	Malden, . . .	Ensign, . . .	Receiving Ship, Charleston, S. C.

In the United States Navy.

1898	Clarence E. Wood, . .	Tiverton, R. I.,	Commander, . .	U. S. S. "Panther."
1907	Thomas Baxter, . . .	So. Dennis, .	Lieutenant Commander.	Bethlehem Shipbuilding Corporation, Quincy.
1898	Herbert E. Fish, . . .	Charlestown, .	Lieutenant, . .	U. S. S. "Prairie."
1899	Leroy Neil, ...	Lynn, . . .	Lieutenant, . .	Westinghouse Electric Manufacturing Company, Pittsburg, Pa.
1902	John F. Murphy, . . .	Worcester, . .	Lieutenant, . .	Naval Experimental Station, Annapolis, Md.
1904	Harold J. Dunne, . . .	Canton Junction.	Lieutenant (junior grade).	U. S. S. "Cowell."
1906	Caleb A. Holbrook, . .	Canton, . . .	Lieutenant (junior grade).	U. S. S. "MacKenzie."
1906	William R. Dolan, . .	Worcester, . .	Ensign, . . .	New York City.
1910	Russell H. Sullivan, . .	Westfield, . .	Ensign, . . .	U. S. S. "Sapelo."
1916	Darrough S. Gurney, .	Marion, . . .	Ensign, . . .	U. S. S. "Kennison."
1917	Philip G. Nichols, . .	Peabody, . .	Midshipman, . .	U. S. Naval Academy.
1904	C. George Dyson, . . .	No. Billerica, .	Gunner (T) (gyro),	U. S. S. "Camden."
1906	Carroll L. Morgan, . .	Beverly, . . .	Gunner (T), . .	Radio Station, Cayey, P. R.
1910	George F. Griswold, . .	Roslindale, . .	Gunner's mate, .	Recruiting duty, Lima, O.
1903	Martin H. Greeley, . .	So. Boston, . .	Chief machinist's mate.	U. S. S. "Galveston."
1894	Philip Macomber, . . .	Allston, . . .	Chief boatswain's mate.	U. S. S. "Putnam."
1895	William J. Fitzgerald, .	So. Boston, . .	Supply officer, .	Navy Yard, Boston.

Officers in the United States Marine Corps.

Graduated.	Name.	Residence.	Position.	Vessel or Service.
1903	Leander A. Clapp, . .	Brockton, . .	Major, ...	Quantico, Va.,
1906	Clarence E. Nutting, . .	Washington, .	Major, ...	Parris Island, S. C.

Officers in the United States Coast Guard Service.

1895	Philip W. Lauriat, . . .	Medford, . .	Lieutenant Commander.	U. S. C. G. "Acushnet."
1896	Webb C. Maglathlin, . .	Bridgewater, .	Lieutenant Commander.	U. S. C. G. "Ossipee."
1897	Lorenzo C. Farwell, . .	Dorchester, .	Lieutenant Commander.	United States Shipping Board, Buenos Aires.
1897	Albert F. Patterson, . .	New York, . .	Lieutenant Commander.	Mail Department, Third Naval District.
1899	James A. Alger, . . .	Reading, . .	Lieutenant Commander.	Executive officer, U. S. C. G. Academy, New London, Conn.
1906	William F. Towle, . . .	Boston, . . .	Lieutenant Commander.	Division supervisor of communications, N. Y. City.
1906	Henry C. Roach, . . .	New Bedford, .	Lieutenant Commander.	U. S. G. C. Academy, New London, Conn.

United States Steamboat Inspection Service.

1902	Herman T. Parker, . .	Rockport, . .	Inspector of hulls,	Boston, Mass.
1899	Frank B. Davis, . . .	Dorchester, .	Assistant inspector of boilers.	Boston, Mass.
1900	James F. Rawdon, . . .	Worcester, . .	Assistant inspector of boilers.	Boston, Mass.

Officers in the United States Lighthouse Service.

1895	George E. Eaton, . . .	Woods Hole, .	Superintendent, .	Second Lighthouse District, Boston, Mass.
1904	John F. Williamson, . .	Brockton, . .	Captain, . . .	U. S. L. H. T. "Columbine."
1905	Harry W. Maynard, . .	Milwaukee, . .	Captain, . . .	U. S. L. H. T. "Hyacinth."

In the Hydrographic Office, Navy Department.

1913	George W. Sullivan, . .	Washington, D. C.	Nautical expert, .	Washington, D. C.
1919	Charles B. Scully, . . .	Rockland, . .	Nautical expert, .	Washington, D. C.
1919	Richard R. McNulty, .	Gloucester, . .	Nautical expert, .	Washington, D. C.
1919	Arthur O'Leary, . . .	So. Boston, . .	Nautical expert, .	Washington, D. C.
1920	Mortimer P. O'Sullivan, .	Medford, . .	Nautical expert, .	Washington, D. C.

Appropriations.

The appropriations for the school for the fiscal year 1920, from Dec. 1, 1919, to Nov. 30, 1920, are here accounted for, as follows: —

Expenses of School Ship.	Appropriation.	Expenditures.	Difference.
Personal services,	$42,605 00	$39,443 86	$3,151 14
Travel, transportation and office expenses,	1,485 00	1,886 34	401 34
Food,	22,500 00	24,267 81	1,767 81
Clothing,	–	63 00	63 00
Furnishings and household supplies,	1,325 20	1,560 38	235 18
Medical and general care,	935 00	1,160 40	225 40
Heat, light, power, etc.,	7,100 00	7,271 77	171 77
Repairs, ordinary,	1,825 00	1,850 91	25 91
Miscellaneous,	3,130 00	4,309 42	1,179 42
Appropriation by the Commonwealth,[1]	$80,905 20	$81,813 89	
Deficit,	919 54	81,824 74	
Unexpended balance,	. . .	$10 85	

Expenses of Commission.	Appropriation.	Expenditures.	Difference.
Personal services,	$3,911 75	$3,911 75	–
Office supplies and equipment,	288 00	285 76	$2 24
Traveling and other services and expenses,	2,312 00	2,316 70	1 91
Retirement fund allowance,	2 79		
Appropriation by the Commonwealth,[1]	$6,514 54	$6,514 21	
Unexpended balance,	. . .	33	

[1] The Treasurer of the Commonwealth receives annually $25,000 from the Navy Department towards the maintenance of the school, reducing the net cost to the State by that amount.

Respectfully submitted,

FRANCIS T. BOWLES, *Chairman.*
WILLIAM E. McKAY.
CLARENCE E. PERKINS.

Boston, Jan. 1, 1921.